Control: ARTD

cc: RA/DRA
SUPR
CNSL

TES

Site: Herculaneum
ID# MOD006266375
Break: 4.0
Other:
3Y402

A717

THE DOE RUN COMPANY

SUITE 300
1801 PARK 270 DRIVE
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March 11, 2002

Via Telefax, Total Pages = 7
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Mr. James B. Gulliford
Regional Administrator
U.S. Environmental Protection Agency
Region VII
901 N. Fifth St.
Kansas City, KS 66101

40173278

SUPERFUND RECORDS

Dear Mr. Gulliford:

Thank you for meeting with us on March 5, 2002. As we agreed there is a need for more frequent communication. In particular, there appears to be a number of facts that conflict with the statements about Critical Public Health Issues which were made in the meeting and which appeared in the agenda prepared for the meeting. We believe it important to bring these facts to your attention.

A. "Current monitoring data indicates recontamination of streets"

At the March 5th meeting Doe Run was advised that EPA's street sampling data was indicating a recent significant upward trend in contamination in the streets. Because we had not seen the last two sampling results on which EPA based these statements, we could not provide any comments during the meeting. However, it has now come to our attention that the so-called upward trend is most likely the result of EPA changing its sampling methods.

Prior to February 5th, EPA used a "dust buster" with 12 volt rechargeable batteries to collect the samples. On February 5th, EPA started using a new high collection efficiency type of vacuum and filter, the same types used for the anthrax sampling. The new high efficiency vacuum uses a 120 volt system working off of a power converter attached to the EPA van. In other words a new high powered vacuum with a tighter filter was used to collect the three samples described on February 5th, 12th, and 18th. One would expect to obtain more dust that had been historically been obtained and, therefore, result in higher lead concentrations in these samples.

That the change in sampling technique may account for the reported increase in street concentrations is also supported when one does a statistical analysis of all the sampling points before February 5th. Placing a best fit analysis of all EPA street sampling data before February 5th shows a downward trend in concentration in all locations except for Main and Station (while the A location shows a slight downward trend, the B & C locations show an overall upward trend even though the results had been generally decreasing since January 5th). Consequently, we believe it is inappropriate represent that there is a "significant upward trend".

The meeting also gave us concern regarding the role of mass in assessing the impact of lead on the streets by the smelter. As EPA is aware, when assessing how lead in dust on the street is going to impact the community, it is critically important to know the mass of the material. For material that will be resuspended, dispersed by wind and mixed in the soils, it is important to know how much material is actually deposited on the street and available for resuspension. Likewise, for a risk assessor to evaluate how the material on the street would impact passerbys, the risk assessor must know the amount of material to properly evaluate exposure paths and how lead may affect any persons exposed to it. The statement by Mr. Morrison that EPA may not have enough sample mass to provided Doe Run with its requested split samples indicates that the actual amount of material found on the street is quite small. Obviously, the key assessment in whether Doe Run's efforts at reducing fugitive emissions has been successful or not is whether the total amount of lead released into the environment is decreasing. Concentration measurements alone do not tell this story.

B. "Historical lead recontamination data indicates average yard recontamination rates of 600 ppm/year"

In assessing recontamination as an issue for the town of Herculaneum, the work done by MDNR is misleading. First, it only focuses on those houses closest to the smelter. The MDNR's reported number is apparently derived from an evaluation of those houses which Doe Run had remediated in the past. All these houses were close to the smelter; because this was the area expected to have the highest contamination and was the reason why Doe Run engaged in self-initiated voluntarily remediation at these houses in the past. The issue of recontamination for those houses close to the smelter is one that Doe Run has acknowledged and addressed in the Recontamination Plan submitted to EPA last fall under the May 2001 AOC. For these houses close into the smelter, Doe Run may either purchase such property and, with houses it already owns, move the facility fence line out or, depending on the actual level of deposition after the SIP projects are completed, Doe Run may even use certain houses for appropriate habitation (no young children) where safe levels can be maintained in the yards over time by either additional soil removals, tilling of soils, or soil amendments.

Even though purporting to address "recontamination" in Herculaneum, the MDNR ignores data from other areas of town that show annual deposition of lead in soil from smelter operations in the future will be minimal. For example, in assessing recontamination potentials for houses beyond 0.4 mile from the smelter, one can look at those houses along Washington St. They are located in the middle of the area between 0.4 mile and Highway 61/67 and they are all older than 1970. With each yard having, therefore, at least thirty years exposure to the plant emissions, the average contamination along this street has been less than 22 ppm lead per year. For a worst-case scenario for the part of Herculaneum beyond 0.4 mile, one can evaluate Broadway, a street directly downwind and fairly close to the smelter (800 to 900 feet). In evaluating the eight houses on that street for which we have soil lead data (the trailer park was not evaluated because of the possibility of newer soil being placed there) one finds that the average age of housing is greater than 58 years (75% are pre WWII) and that the average contamination along this street has been less than 34 ppm lead per year.

Being based on 30 and 58 years of emissions, the numbers calculated above are very conservative in light of the fact the emissions into these areas have being going on for 100 years. Further, when one then takes into account that in only three or four months with completion of the SIP projects total lead emissions will be approximately 10% of what they were in 1982 (the earliest date for an emissions inventory), it is clear that the future lead deposition rates in these neighborhoods will be a small fraction of the 22 ppm and 34 ppm averages calculated above. In short "recontamination" is much less an issue for houses beyond the 0.4 mile distance from the smelter (the majority of houses east of the highway).

Second, the MDNR has misrepresented the "recontamination" number it has made public. Although the "600 ppm/year" value was represented as an "average" it appears that the MDNR in listing its data only used the highest quadrant in each house. In other words, for all remediated houses, MDNR only used one fourth of the sampling data and ignored concentration data for three quarters of the area. Doe Run evaluated 81 houses which we had remediated and which had sampling data from the fall 2001 (an additional 9 houses were omitted because of outliers—one quadrant in the yard being at least five times greater than other quadrants in the yard). Using what Doe Run understands to be the MDNR's methodology (i.e. assuming clean fill material would be 50-200 ppm lead and taking into account outliers) our analysis indicates average deposition in those houses within 300 feet of the smelter to be 389 to 476 ppm, with the average for houses greater than 300 feet dropping by half to 191 to 269 ppm. Even though all houses in this data set are close to the smelter (none further away than 800 feet from the smelter), more than one quarter of the houses beyond 300 feet had a deposition rate of only 43 to 118 ppm. Given the reduction in lead emissions from the smelter discussed above, the future air deposition rates in these houses close to the smelter would be expected to be even lower.

The data also shows that other factors may be at work. For example, the lead deposition at 729 Circle, a house only 600 feet from the smelter and directly downwind, shows over a period of nine years, a yearly average deposition rate of only 39 to 55 ppm per year. It is unclear why this deposition rate is lower than houses in the vicinity. Analysis of the data also shows that it may be inappropriate to assess long term recontamination by evaluating new levels of lead in soil in houses that were only remediated one or two years before the sampling. The per year recontamination averages for houses remediated one or two years ago are significantly higher than for other years of remediation. It may be that there is a period of time before weathering of the deposition of airborne particles moves the lead at the surface into the soil column.

C. "Recent blood lead study indicates 45% of children living near the smelter have blood lead levels exceeding 10 micrograms per deciliter. 28% in Herculaneum."

The report by the Missouri Department of Health and Senior Services (MDHSS) grossly overstates the health situation in Herculaneum today. As you may remember from the March 5th meeting, the MDHSS admitted that when they had two data points for any one child, they reported the highest blood lead level, even when the most recent one was lower and that it appear that most of the two data point kids the most recent data was indeed, lower (one wonders if the blood lead levels even fell below ten). Other biases evident in the report were (1) the failure to note that the testing data for west of the highway shows only a 6% elevated blood rate (below the national and Missouri averages) and (2) the implication in the report that women of child bearing age are at risk because of the lead smelter, when the MDHSS should have known that the one female having a 55 ug/dl blood lead level was not affected by emissions from the smelter either in the air or in the soil (this level is much higher than even occupational exposures).

Most importantly, the MDHSS report does not reflect the current situation in Herculaneum. Doe Run has been diligently identifying children east of the highway to ensure that the houses of all children 6 or under have their yards remediated as EPA requested in the December 21, 2001 AOC. In doing so, Doe Run has gathered information that there are currently 67 houses east of the highway with children 6 and under living in the house. Despite the statement in the MDHSS report that there are 30 children 6 and under with elevated blood lead levels east of the highway, the MDHSS has only provided to EPA (who in turn provided to us) the addresses of 15 homes having elevated blood leads. Of these 15 addresses, we know that six of the families have vacated the premises. While any child with elevated blood lead is one too many, it is important in assessing the problem and actions that need to be taken in the future to note that there are currently only 9 houses in Herculaneum east of the highway that have children 6 and under with elevated blood leads. In other words, only 13% of all the households east of the highway have children 6 and under with elevated blood leads. This is quite a contrast to the "45%" which the press has adopted as "half" of the kids in Herculaneum. While we would prefer to go by exact numbers of children, the MDHSS

has not provided this information. Nevertheless, using houses to evaluate the scope of the problem in Herculaneum is pretty accurate. Because the MDHSS had blood test results for 67 kids east of the highway, we believe that we have located most children east of the highway and that most houses with elevated blood lead children had only one child age 6 or under.

Doe Run has appended to this letter a map of Herculaneum showing the locations of all the children age 6 or under currently in Herculaneum east of the highway (a colored copy of the map is being sent by overnight mail with a hard copy of this letter). We would note that the locations of children with elevated blood leads is not really correlated with distance from the smelter or with the haul routes. More importantly, 78% of the houses with children with elevated blood lead levels were constructed prior to WWII. While we have not completed cleaning and lead source surveys of all houses where children had elevated blood leads, we can confirm that the three pre-WWII houses on Thurwell St. where there are children with elevated blood leads, all have lead paint. We believe it clear that addressing the public health concerns for children in Herculaneum and achieving no children with elevated blood leads, requires addressing lead paint exposure as well as emissions from the smelter. We will make a proposal directed at the multimedia issue in the very near future.

While we have never denied the real impact of lead contamination, we are especially concerned about the last few years trend of bias about lead and mining/ smelting from the Missouri Department of Health (now DHSS). Just today, we are commenting to them about the Jasper County Childhood Follow-Up Lead Exposure Study where our expert has concluded that a calculation mistake has been made, within the report, which drastically changed the outcome of the study. Doe Run also believes that conclusions were manipulated in the Preliminary Review of Draft- Big River Mine Tailings Superfund Site Lead Exposure Study of April 21, 1997. If you wish we would be happy to provide additional details of this bias.

D. "Doe Run needs to be proactive in addressing the public health concerns in the community."

This is another need for increased communications. Doe Run has always been proactive in addressing the public concerns in Herculaneum. The Missouri Department of Health and the Jefferson County Health Department had until a year ago been an active partner in this effort.

In 1975 CDC did a nationwide survey of all copper, lead, and zinc smelters comparing the children's blood lead and cadmium and arsenic markers around the smelters to a control community, in our case Perryville, MO. We cooperated in providing facilities and assisted in the follow up on elevated individuals as requested. CDC set the protocol for the "snapshot" look at all children within a short window of time in the late summer within 1 ½ miles of the smelter. The study declared no lead health problem in Herculaneum.

In 1983 Doe Run requested the Missouri Health Department to repeat the study because we became concerned that the levels close the plant in the 1975, on closer analysis, were higher than further out from the plant. Our level of proactive involvment increased significantly at that point. Not only did we do the blood lead screening, but we were involved in the in-house surveys for sources, education, some abatement work, and follow up. We continued with screening and intervention.

In the late 1980's when the CDC committee was contemplating a reduction in blood lead level of concern (it had been 35 in 1975 and 25 in 1985) we began a series of public meetings to educate parents, the Mo Dept of Health spoke at some of these meetings as well as the Jefferson Co Health Department. We did the first soil survery, we did a drinking water survey. We began an information newsletter to keep these issues in front of parents.

In 1991 after the new standard was announced we did another survey and the Jefferson County Health Department and our consultant provided a comprehensive report to each child who was eligible. We provided cans of paint and involved ourselves in some abatement and abatement advice.

We began the voluntary soil replacement program based on the protocols in the Record of Decision for the East Helena Smelter. We continued those up to the present.

We began purchasing buffer homes along the edge of the facility. We produced a video called "Living with Lead" acknowledged by the Jefferson County Health Department to make people aware of lead in their environment.

We have been publishing annual environmental reports since 1988 and mailing them to residents, EPA, DNR, DOH, local politicians and national politicians.

We conducted some demonstration programs on lead paint abatement, replacing all the windows in a home where that was suspected to be a significant source up on main street.

We have annually, for about 10 years, offered to spread or provide fertilizer to about 250 homes closest to the smelter to help keep a grass buffer and to foster the development of lead phosphate compounds which are known to be almost zero bio-available. We have recent evidence that may in fact have been happening around the smelter and we should talk as scientist about whether to continue this project as part of the answer to recontamination.

With regard to the things you may be concerned we haven't done, consider the fact that some of those issues rest on government's shoulders. We called and asked to enter a voluntary agreement with both EPA and MDNR in the summer of 1999. We signed the agreement in September of 2000. EPA didn't sign until May of 2001

because we were told they were waiting for the new administrators arrival. We continued all of our programs in the interim, including doing the blood survey we promised in August of 2000 with government involvement. Comprehensive household surveys were done, by us or the government or both. We met with EPA's team, DNR's team leader, ATSDR, and DHSS on June 15, 2001, and requested to proceed with expedited cleanups for elevated blood lead children. The answer was "we have a process and we don't do expedited QAAPS any more". Several months later after the events of Labor Day 2001, we received a letter from John Young allowing us to proceed with the soil lead cleanups without a QAAP until one could be developed.

With regard to transportation issues, after we had lost the arrangement with our rail carrier several years ago, we conceived of the concept of transloading from the Glover facility and approached EPA/DNR about whether we could do so. It was determined and communicated to us that we would have to wait for a SIP change at Glover before we could do that and it would probably be several years. We never gave up on the idea we simply programmed it into the future. The idea of a haul road was conceived some years ago. We worked with our Congressman's office to try and help co-fund the bridge. When that couldn't happen we proposed a new version down a draw through the middle of the town, and the City approved it but then reversed itself denying us the land swap we needed. That would have taken traffic off the streets. several years ago even while we were waiting for SIP Approval at Glover.

In the meantime we built a barge unloading facility on the river for approximately $2 million in part to take import concentrate tonnage off the streets of Herculaneum.

This explanation is not to try to shift any responsibility we might have to the citizens of Herculaneum, but to make you aware that we have been extremely proactive in the community issues and also that government bureaucracy can be part of the problem from time to time.

Thank you for considering my comments. We will be back to you in the near term with some our thoughts on transportation, and other issues. I feel it was important to correct what I believe to be misunderstandings in both the characterization of the situation and our long term response to the issue.

Sincerely,

Jeffrey L. Zelms

JLZ/lls
Attachment (w/overnight copy)
33-1052